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Significant Differences between Seventh and Eighth Grade Students Enrolled in Keyboarding to Earn High School Credit

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SIGNIFICANT DIFFERENCES BETWEEN SEVENTH AND EIGHTH GRADE
STUDENTS ENROLLED IN KEYBOARDING TO EARN HIGH SCHOOL CREDIT

A Research Paper
Presented to the Graduate Faculty
of the Department of Occupational and Technical Studies
at Old Dominion University

In Partial Fulfillment of the Requirements for a
Master of Science Degree
in Occupational and Technical Studies

By Kellie Wheeler
August 2008

APPROVAL PAGE

This research was prepared by Kellie M. Wheeler under the direction of Dr. John M. Ritz in OTED 636, Problems in Occupational Technical Studies. It was submitted to the Graduate Program Director as partial fulfillment of the requirements for the Degree of Master of Science.

APPROVAL BY: _____ DATE _____

Dr. John M. Ritz
Advisor and Graduate Program Director

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I would like to thank my husband for tolerating the long hours spent away from him and our boys while working on my graduate degree. I want to thank my two boys for their understanding when mom was not able to participate in all the extra-curricular activities they may have wanted to take part. I want to also thank my family members and friends for their understanding and patience while I finished this extended part of my education. I thank God everyday for blessing me with such a wonderful family.

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Kellie M. Wheeler

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CHAPTER I

INTRODUCTION

Keyboarding, formally known as typing, is a skill that has been a part of the business world since the 1860's. Just as time is constantly in motion and technology continuously evolving, touch typing on a QWERTY keyboard still remains a constant form of communication. According to Ostrach, President of Five Star Staffing, Incorporated, a proficient typist should be able to key 40 gwam (gross words a minute); however, an excellent typist is able to key 65 gwam or higher.

Keyboarding was normally introduced to students as an elective in the field of business and taught only in high school. The majority of the students were woman seeking employment in the area of business, usually performing secretarial jobs. The foundation for teaching the skill of keyboarding is very similar today as it was when my own grandmother learned typing skills in 1952. The textbook used in 1952, *20th Century Typewriting* by South-Western Publishing Company, is very similar to the textbook used in the course BUS6151 Keyboarding, *Century 21: Computer Applications and Keyboarding*, by South-Western Educational Publishing.

Today, keyboarding is being offered to middle school students and they are able to earn high school credit for the class. The curriculum is not altered for these students and they must adhere to the same high school attendance restrictions. Although, we have students being exposed to the use of computers as early as preschool, they are not given the opportunity to select an instructor

based keyboarding course until middle school. All computers have a QWERTY keyboard attached to their central processing unit (CPU).

According to the National Middle School Association in *This We Believe: Successful Schools for Young Adolescents* (2003):

Every day, twenty million diverse, rapidly changing 10-15 year olds enrolled in our nation's middle level are making critical and complex life choices. They are forming attitudes, values and habits of mind that will largely direct their behavior as adults (p. 1).

Students at this time in their lives experience many physical, mental, and social changes. There is no other time in a human's life, other than infancy, that personal changes are as profound. It is a time when students are beginning to develop their own identities that may serve as the cornerstones of their adult lives. Students are deserving of schools and educators willing to guide and support them at this stage in life. A middle school student's academic success rests heavily on their developmental needs being met as well. Educators who show understanding in the cultural context in which middle school students grow to maturity will make wise decisions about the education provided for these students.

STATEMENT OF THE PROBLEM

The purpose of this study was to investigate seventh and eighth grade students end of course grades in keyboarding to determine if their passing scores were higher for students who were more mature.

HYPOTHESIS

It was hypothesized:

H₁: Eighth grade students will have higher end of course grades than seventh grade students enrolled in a high school credit keyboarding class.

H₂: Seventh grade students will have required more “extra-help time” than eighth grade students. Extra-help time is time needed by students to complete assignments outside of regularly scheduled classroom time.

BACKGROUND AND SIGNIFICANCE

Technology is in a continuous state of evolution and that evolution creates a need to teach students, who are the potential workforce of the future, how to effectively operate technology. Computers are a mainstay of almost every business, home and school throughout the nation. Computers are equipped with hardware, software, and peripherals attached for both input and output of data. The QWERTY keyboard is one of those peripherals allowing for input of data. The National Center for Educational Statistics (NCES) reported in 2003 the average public school contained 136 instructional computers and 93 percent were connected to the internet.

Keyboarding BUS6151 for secondary students is an 18 week course described by Virginia Department of Education, Career and Technical Education Services (2007):

This course is designed for secondary school students to develop and enhance touch skills for entering alphabetic, numeric, and symbol information on a keyboard. Students compose and produce personal, educational, and professional documents (p.1).

During the first nine-weeks, students use the software Micro-Type 4.0® by Southwestern Keyboarding. The second nine-weeks, students are instructed in “production work” which is when students learn correct formatting techniques and compose multiple types of documents.

Keyboarding BUS6151 is now being offered to students in middle school grades seven and eight. Students electing to enroll in this course have the opportunity to earn ½ high school credit upon completion and passing of the course. Students must meet the same standards and competencies as a high school student enrolled in the same elective. Students must maintain regular daily attendance and are permitted only 12 absences within the 18 week semester. This is the same for high school students who attend the class on every other day due to the different schedules between middle school bell scheduling and high school block scheduling. An attendance waiver must be filed to be reviewed by the principal if a student is absent more than 12 days (www.cteresource.org and VBCPS Curriculum 2007, pp. 8-9). Parents of middle school students enrolled in high school credit courses may choose to expunge their child’s grade if it is lower than “C” average for the semester. However, teachers have already put in many hours of instruction and time with these students and their work efforts are erased as if they never existed.

During informal and formal discussions with middle school teachers throughout the district, concerns have been expressed about seventh grade students earning high school credit. Teachers explain in curriculum meetings and round table meetings, majority of seventh grade students do not possess or exhibit the maturity and skills necessary involved in being enrolled in high school

credit courses. According to Vinikoff in a personal interview, February 6, 2008, “There are seventh graders who truly lack the organizational and study skills necessary for this class.” Vinikoff also states, her seventh grade keyboarding students require more extra-help time than her eighth grade students. Extra-help time is provided for students who may be experiencing difficulty in completing daily objectives or have been absent from class. The keyboarding lessons assigned to students are required to be completed on school computers installed with necessary software and in the presence of a keyboarding endorsed instructor.

Foreign language teachers have been teaching their high school credit courses for the past 10 years, according to Bunting in a personal interview on February 6, 2008. Bunting recently retired after completing 30 years of teaching and was the Foreign Language Department Chairperson for Princess Anne Middle School from 1998-2007. Bunting recalls the original process for enrolling seventh and eighth grade students in a high school credit foreign language class included students taking a language aptitude test known as the Pimsleur Language Aptitude Battery. The foreign language teacher reviewed the test results and requested teacher recommendations for students scoring above average. The foreign language department then would send out invitations to students requesting they begin their study in the foreign language program. These procedures are no longer being implemented for seventh or eighth grade students electing to enroll in a high school credit foreign language class. Although students seeking enrollment in advance core classes of Mathematics, English, and Science, which also count for high school credit, must acquire

teacher recommendation and have passed their most recent Standards of Learning test in that subject (VBCPS Middle School Curriculum, 2008).

McEwin, Dickinson, and Jenkins (2003) performed a study in 2001. It was a follow-up study to one completed in 1993, obtaining a “snapshot” of current programs and practices in the nation’s public middle schools (p. 5). The study discovered the mean number of minutes allocated for instruction in core subjects was three hours and thirty-five minutes for seventh and eighth grade levels (pp.18-19). Findings from the same study revealed the range of elective courses offered in middle school had changed little since the study was first performed in 1993 and required computer courses had increased 14 percent for seventh and eighth grade students between 1993 to 2001 (pp. 21-23). The study’s recommendations supported a variety of elective courses be offered in middle schools. These courses should be monitored and based on the needs and interests of students (p. 53).

It has been shown that developing keyboarding skills required constant reinforcement and teaching in order to maintain the desired skills (Olinzock, 1998). Instead of children developing poor keyboarding habits such as hunting and pecking, it was important that they learn the proper way to touch type and use it regularly. This would allow the students not to have to relearn the correct method.

According to Dryden (2007) touch method of keyboarding was an essential skill and there were professionals pushing for keyboarding skills to be taught at the elementary level (p. 1). Students as young as eight had effectively learned touch-key methods. However, elementary students would not be able to

grasp the importance or impact for composing a personal business letter, a memorandum, or the correct formatting necessary for a business report.

Keyboarding was a psychomotor skill allowing a person to make continuous connections between the brain and fingers with placement on specific keys located on a keyboard. The Encyclopedia Britannica (2008) defines a psychomotor skill as the development of organized patterns of muscular activities guided by signals from the environment. Competent typing skills can be a very useful tool for students and it is truly easier to learn a psychomotor skill correctly from the start than having to retrain once improper techniques have already formed.

Technology continues to evolve and as long as computers are connected to a QWERTY keyboard, users will need to learn touch-typing skills. Although, Rimm (2005) reports, "Technology, while providing great benefits for our society, has stolen from some of our children the developmental stage of middle childhood" (p. 4). Technology can be used as a benefit and not a limitation when educators find the correct balance. The balance must derive from both teacher and student in the area of delivering curriculum and openness to learning the curriculum. Introducing high school credit courses to students not willing or readily prepared for the additional responsibility can only set the student and teacher up for frustration and possible failure.

Middle school years are critical, and failed opportunities to engage youths in middle school may have life-long consequences (Juvonen, Le, Kaganoff, Augustine, & Constant, 2004). A method must be devised for placing middle school students in high school credit courses which are electives. The

educational system has the responsibility of properly preparing students for their next level of challenges. Is the system upholding its responsibility by introducing the technology, but not providing the necessary skills to operate the technology? Although, when the official opportunity is made available to students allowing them to learn how to effectively and efficiently interact with technology, is it really setting some students up for failure? Are we doing the best we can as educators in preparing students for computer interaction by waiting until middle school to teach those touch-typing skills? The middle school students also have the pressure of the course being a high school credit and there are no other options for them to be able to acquire the psychomotor skill of keyboarding within Virginia Beach Public Schools.

LIMITATIONS

Limitations to the study include the following:

- All data acquired will be from Princess Anne Middle School.
- The learning ability varies among students enrolled in the classes.
- End of course grades for seventh and eighth grade keyboarding students will be used in this analysis.
- Extra-help time was offered to students on Tuesday, Wednesday and Thursday, 8:00 am – 8:45 am, to assist with completing course assignments.

ASSUMPTIONS

The foundation of this research project was based on the following:

- Seventh grade keyboarding students will have a lower percentage end of course grades than eighth grade students.
- Seventh grade students will have required more extra-help time than eighth grade students.
- High school credit elective courses being taught at the middle school level may need to incorporate a method to determine a middle school's student's readiness to take on the challenge of a high school credit elective.
- Introduction of proper touch-key methods are essential and should be made available prior to middle school.

PROCEDURES

The data for the study came from collecting end of course grades for both seventh and eighth grade keyboarding students at Princess Anne Middle School. The school year used for review was 2007-2008, first semester. End of course grades included students first nine-weeks, second nine-week averages and final exam grade, which weighed 15 percent of their end of course grade. A t-test statistic was run for the end of course grades.

The extra-help time was calculated using the sign-in sheet provided for students to use when they seek extra-help from their keyboarding teacher. A chi-square was run tabulating number of eighth grade students seeking help and no help compared to the number of seventh grade students seeking help and no help.

DEFINITION OF TERMS

The following were defined to assist the reader:

- GWAM – Gross Words a Minute – A method used to determine how many words a typist is able to key in a minute.
- QWERTY – The official name of the keyboard.
- SCR – Student Competency Record – A list of competencies required in a Career and Technical class.
- Extra-help time – specific time offered by the keyboarding teacher in addition to designated class time.
- BUS6151-Keyboarding – course offered to secondary students in which students learn and develop touch skills for entering alphabetic, numeric, and symbol information on a keyboard. Students compose and produce personal, educational, and professional documents (Virginia Career and Technical Resource Center).

OVERVIEW OF CHAPTERS

This study seeks to explore and determine if there is a difference between seventh grade keyboarding students end of course grades and eighth grade students end of course grades. A need for this study has arisen from the challenges teachers experience in instructing high school credit courses in a middle school environment. Chapter I delineates the problem addressed by the study and provides hypotheses, background and significance as well as limitations and assumptions involving the study.

Chapter II, Review of Literature, reveals there was a lack of studies involving middle school student enrollment in high school credit courses. The

chapter does provide a brief background of middle schools involvement and common characteristics of typical middle school students. Additionally, it will provide information about the growing necessity for proper keyboarding skills.

Chapter III discusses the methods, procedures and statistical analysis used in the current study. Chapter IV reports the findings and tabulated data. Chapter V delivers recommendations and allows for the possibility of further studies in the same area.

CHAPTER II

REVIEW OF LITERATURE

The research was limited in the single area of middle school students enrolled in high school credit courses. Therefore, the groundwork for the study was laid out by providing the following areas: characteristics of middle school and middle school students, challenging coursework and research trends in keyboarding.

MIDDLE SCHOOL

In order to fully comprehend the challenges involved with the instruction of current middle school students, one needs to know briefly how middle schools came to exist. By 1900, the predominant school configuration in the United States consisted of eight years of primary school and four years of secondary school (Juvonen, Le, Kaganoff, Augustine, & Constant, 2004). The need to reorganize the school system arose from the following factors:

- Increased immigration
- Increased urbanization
- The need to prepare a better workforce due to growing industrialization.
- The demand for preparing youth for academic challenges.

The Committee on the Economy of Time and the Commission on the Reorganization of Secondary Education recommended in 1913 and 1918 that secondary schools be divided into junior and senior levels (Juvonen et al., 2004). It was the formation of junior high schools consisting of grades seven and eight and senior high schools where grades ninth through twelfth were placed.

In the early 1980's another revision was implemented; junior high schools were transformed into a new concept known as "middle school," teaching grades sixth through eighth (Juvonen et al. 2004). The different needs of adolescents became recognized and contributed once again to the revision of school levels. The National Middle School Association (NMSA) was formed in 1973 (Juvonen et al., 2004). The NMSA represents the largest advocate for students and instructors of young adolescence. The NMSA had developed specific guidelines for middle schools and had outlined them in *This We Believe: Successful Schools for Young Adolescents*. Concerns exist about middle school optimally and effectively meeting the needs of students in the areas of academia and structure. It is some of these concerns that are providing a basis for this study.

MIDDLE SCHOOL STUDENTS

Adolescence is the period of time between childhood and adulthood, during which many changes take place. It is a time complicated by biological, social, emotional and intellectual changes. These changes remain the one constant for this stage of life. However, each era can be characterized by changing family structures; increasing economic prosperity for select sectors of society; continued poverty, particularly for children; greater access to information; shifting job markets; and global perspectives and pressures (Repetto, Webb, Neubert, & Curran, 2006). Students develop their own identities, passions and life direction while gaining skills that allow them to experience more complex thinking.

The overall purpose of middle level education is providing young adolescents with a developmentally appropriated curriculum, a safe environment

that supports their exploration of self in relationship to the larger world (Repetto et. al., 2006). Middle school can provide a roller coaster ride for both students and educators, and it takes an effective educator to impact students at this age. Being a middle school teacher requires the ability to negotiate peace treaties, calm a broken heart, engage an audience, inspire the lost, laugh at life, applaud success and understand inner conflict (Repetto et. al., 2006). Middle school offers numerous challenges for students, parents, teacher and administrators and these challenges will remain constant and continue to expand as long as society continues to expand and grow.

In the Middle: Characteristics of Public Schools with a Focus on Middle School (2000) states, “the notion that early adolescents have social, psychological and academic needs that are distinct from those of older and younger students have long been recognized. Perhaps the most pivotal concern raised in recent years is that middle-level schools lack academic rigor” (p. 26). Overemphasizing adolescents’ social, physical, psychological and emotional needs does not allow opportunity to address the task necessary for sufficient academic work. A fine line exists between emphasizing high-level academia and striving to be supportive of middle school students other needs as well.

According to Goldsmith and Kantrov (2000) in *Evaluating Middle Grades Curricula for High Standards of Learning and Performance*:

Teachers are faced with new academic and pedagogical challenges, and having a high-quality curriculum to guide instructions is an important part of meeting the challenges. An academically rigorous curriculum articulates a clear set of goals for

learning that reflect both deep, conceptual understanding of the subject area and mastery of those skills needed for increasingly expert performance. The framework for this series articulates three key components of high quality curricula: academic rigor, equity and developmental appropriateness (p. 2).

The latter, developmental appropriateness, was what this study intended to address with evaluating middle school students taking high school credit courses.

The National Middle School Association's vision for a successful middle school, as explained in *This We Believe: Successful Schools for Young Adolescents* (2003), believes:

Successful schools for young adolescents are characterized by a culture that includes:

- Educators who value working with this age group and are prepared to do so
- Courageous, collaborative leadership
- A shared vision that guides decisions
- An inviting, supportive and safe environment
- High expectations for every member of the learning community
- Students and teachers engaged in active learning
- An adult advocate for every student
- School-initiated family and community partnership.

Therefore, successful schools for young adolescents provide:

- Curriculum that is relevant, challenging, integrative and exploratory

- Multiple learning and teaching approaches that respond to their diversity
- Assessment and evaluation programs that promote quality learning
- School-wide efforts and policies that foster health, wellness and safety
- Multifaceted guidance and support services (p. 7).

These are the suggested guidelines, provided by the experts of middle school, in selecting educational goals, curriculum content and instructional processes appropriate for the nature of these distinctive young adolescents.

Middle school is a place where students should be able to find themselves and students are curious by nature. Therefore, exploration and exploratory are two descriptors for courses at this level, but that does not mean they are non-academic. Exploratory curriculums allow students to engage in courses providing potential career value, recreational and leisure time pursuits and contribute to the development of a well shaped individual.

Adolescents at this stage have unique developmental and learning characteristics. They learn best through engaging and interactive lesson plans. Teachers have the responsibility to provide activities ensuring appropriate challenges for all types of learners. Students need encouragement and opportunity to explore new ideas that are worthwhile and relevant to them.

The intellectual development of adolescents is not as visible as their physical developments. “Young adolescents develop the capacity for abstract thought processes; however, this transition to higher levels of cognitive function

varies significantly across individuals as well as across and within content areas” (Caskey, 2007, p. 2). Schools and teachers need to support young adolescents’ quest for identity formation through curricular experiences, organization structures, instructional approaches and opportunities for exploration. As learners, adolescents build upon their individual experiences and prior knowledge to make sense of the world around them. Their thinking becomes more flexible as they develop reasoning skills and the ability to hypothesize. Educators must encourage and stifle this formation of skills.

Students deserve educational experiences within schools that are properly prepared to acknowledge and embrace their unique qualities. A curriculum originally developed for high school students may not have the ability to correctly address middle school students’ specific characteristics and needs. Although, educators and policymakers have made great improvements in providing middle school students with developmentally appropriate learning opportunities, there is still more that remains to be accomplished and changed.

KEYBOARDING

Many educators, administrators and school boards do not fully understand the importance of correct keyboarding skills and the manner in which they must be developed (McEntee, 1994). Computers have controlled advancements in technology and forced the transformation of the course formerly known as “typing” into “keyboarding”. Traditionally, these skills were taught in high schools by Business Education licensed teachers who have been trained to teach the psychomotor manipulations of keyboarding. Keyboarding consists of an

accumulation of psychomotor skills similar to learning to ride a bike or playing a musical instrument and the instruction should be formalized.

Prior research in the area of keyboarding confirms that students who have become proficient in touch-key-methods complete work faster and are more efficient in their use of the keyboard (McEntee, 1994). The research also indicates that students as young as eight are able to become proficient in their use of the keyboard, which simply means they are able to key words faster than they can write them (Zeitz, 2006). However, eight year old students are not efficient in formatting, producing and understanding the documents involved within a high school level keyboarding class (Zeitz, 2006). A solid foundation in keyboarding, which is still the primary form of input for computers, is needed in order to proficiently produce business documents (Zeitz, 2006).

According to the Virginia Department of Education, Business and Education website, elementary children in grade five should have a maximum of 20 hours of keyboarding instruction (www.cteresource.org). Texas, Minnesota, New York and Virginia have mandated keyboarding classes along with instruction time, speed and accuracy standards. Keyboarding instruction begins in grade five and continues into later grades (Rogers, 1997). However, the first opportunity for students to be able to elect a structured keyboarding course is in grade seven.

In the fall of 2004, 204 middle school students within the 302 Virginia middle schools enrolled in an elective keyboarding course for high school credit (Gruss, 2003). The elective course was described by the Virginia Beach Department of School Administration (2007):

Keyboarding (BE6151)

One-half credit, one semester, Grades 7 and 8

Students acquire skills in developing touch keyboarding techniques and become proficient computer users. The course includes word processing applications. Review of standard grammar usage and development of proofreading and editing techniques enable students to compose, organize and edit documents at the keyboard.

Keyboarding was considered an exploratory/elective course. Exploratory/elective courses were classes meeting for nine, eighteen or thirty-six weeks.

Rogers conducted a longitudinal study from 1993 to 2005 to determine the number of school districts that offered keyboarding instruction at the elementary level. The study was to determine the status of elementary keyboarding in Wisconsin and compare data. As technology continues to evolve, students of all ages are now using the computer as a vital learning tool in classrooms. In this computerized society, learning correct keyboarding skills is even more important (Rogers, 2005).

As early as 1986 and even today, the controversy over who should teach keyboarding, what skills should be taught, at what grade level/age and for what length of time (Rogers, 2005)? Due to the inconsistency of schools introducing keyboarding skills, children often develop their own hunt and peck systems. These systems are inefficient causing students to take longer at the computer wasting valuable time and developing habits that may be difficult to change.

Keyboarding, formally known as typing, may never completely replace writing by hand, but a skill valued, still the same. Touch-typing was only considered appropriate for those (usually women) seeking work in offices (Dryden, 2007). Keyboarding was a form of communication as well as a method for extracting and disseminating information. Sufficient time was necessary for initial keyboarding instruction and just like any other new skill it should be reinforced throughout the school years.

SUMMARY

The review of literature indicated keyboarding as an essential skill due to the continued growth of technology. Middle school had developed from being a “miniature” version of high school to a time where educators were able to focus on providing students the opportunity to explore areas of interest in their lives currently and for future preparation. Middle school students were in a pivotal point of self-discovery as they experienced many different physical, mental and social changes. It was these changes that affected a middle school students’ ability to face and conquer the challenges of middle school.

Traditionally business teachers always taught “typing”, now known as keyboarding in a high school setting. The course was now being offered to middle school students, and they were able to earn high school credit. However, were these students prepared and ready for the challenges involved with this course? Was there a better method for introducing the necessary skill of keyboarding? Research showed 90% of students were exposed and had access to computers even as young as five years of age. Other school districts effectively introduced touch-key methods at the elementary level. Technology

continued to expand and grow, but computers were still connected to a QWERTY keyboard.

Once again the field of education was faced with a challenge of change and how to address the change effectively for students and teachers to remain successful in their roles. Continued research would be necessary to find answers quickly enough to embrace the current and future generations of students.

Chapter III will outline the Methods and Procedures used by the researcher in collecting data for the project. It will include the population of students involved in this study. It provides research variables and description of the two instruments used to gather the data collected.

CHAPTER III

METHODS AND PROCEDURES

The methods and procedures used in this study are described in this chapter. The following sections include: population, research variables, instrument design, methods of data collection, statistical analysis and summary. The research study was quasi-experimental in nature.

POPULATION

The population of this study involved a total of 101 middle school students from Princess Anne Middle School. There were 52 seventh grade student and 49 eighth grade students. All students included elected to take the 18-week keyboarding course, BUS6151, earning them one-half of a high school credit. Students were made aware of the necessary requirements for this course regarding attendance, grading, competencies covered and expectations for passing the course. The course was taught by two keyboarding instructors. Although the grade levels included both seventh and eighth graders, the curriculum remained consistent.

Princess Anne Middle School is just one of the 14 within the Virginia Beach City Public School system. According to the National Center for Educational Statistics (2008), the school had a total enrollment of 1,548 students for the 2007-2008 school years. Enrollment by grade level was sixth grade students-493, seventh grade students-529 and eighth-grade students-526. It is not a Title I, Charter or Magnet school. The school's ethnicity is predominately white and fairly equal in gender, males = 788 and females = 746.

RESEARCH VARIABLES

All 101 students were required to complete the same competencies and used the same software for completing assignments. The independent variables were keyboarding instruction provided by an instructor endorsed in keyboarding by the Virginia Commonwealth Department of Education and extra-help sessions attended by students.

The dependent variable included students' end of course grades. The end of course grades were based on three areas: first nine-weeks, second nine-weeks and an all inclusive final exam weighing 15% of their grade.

INSTRUMENT DESIGN

The instruments used in this study were a t-test and chi-square. The t-test was used to compare end of course grades for seventh and eighth grade students. A chi-square was used in evaluating help sessions attended by each grade level.

METHODS OF DATA COLLECTION

The data collected consisted of using the end of course grades for each grade level, seventh and eighth grade students. The grades were printed out on a spreadsheet including students' name, students' VBCPS identification number, first nine-weeks grade, second-nine weeks grade, final exam grade and these comprise a students' end of course grade.

The extra-help session data was tabulated by totaling the number of times seventh grade students signed in for extra-help and the total number of times eighth grade students signed in for extra-help.

STATISTICAL ANALYSIS

A t-test was performed on each grade levels end of course grade once the mean was found by adding the sum of seventh grade end of course grades and the sum of eighth grade end of course grades and dividing by the number of students in each grade level. Data were placed in a spreadsheet without identifiers other than grade level.

A chi-square was used in determining each grade levels total number of times students required extra-help versus students not requiring extra help. The extra-help was tabulated using the sign-in sheet provided by the instructor. Students were required to sign-in each time they requested an extra-help session.

SUMMARY

Chapter III discusses the methods and procedures used to secure the data that were used for this study. Data for the study were collected primarily using Pinnacle® grade book reports provided by each keyboarding instructor. The extra-help data were collected by tabulating number of times students signing the extra-help sign-in log. Chapter IV will show the results and findings of the data collected.

CHAPTER IV

FINDINGS

The purpose of this study was to compare seventh and eighth grade keyboarding student's end of course grades at Princess Anne Middle School. The purpose of this chapter was to report the findings from comparing end of course grades and measure the frequency of student extra help-time required in the elective course Keyboarding BUS6151. A two-sample t-test was used for this research since the means come from two independent samples. The two sample t-test was a one-tailed test. A chi-square analysis was performed on the number of times seventh grade students used extra help time and the number of times eighth grade students used extra help time.

REPORT OF FINDINGS

Data from end of course grades and the extra help sign-in sheets were used for this research. The total population of students taking the course during the 2007-2008 school year first semester was 101 students. The population was divided into two sample groups: seventh grade students and eighth grade students. From the total population of 101 students, all students received end of course grades and extra help time was needed a total of 300 times for both grade levels combined. Table 1 shows the total numbers of students for seventh grade and eighth grade enrollment.

Table 1. Student Totals for Keyboarding Bus6151

Princess Anne Middle School Keyboarding Semester 1 2007-2008	7th Grade	8th Grade
Teacher 1	0	23
Teacher 2	52	26
Totals	52	49

The mean for seventh grade students end of course grades was 89.71 and the mean for eighth grade students end of course grades was 89.71. The standard deviation for seventh grade students end of course grades was 87.45 and the standard deviation for eighth grade students was 92.82. The value of t was .49934. It was significant at the $p > .01$ value of .3093. See Table 2.

Table 2: End of Course Grades Data Summary

	7th Grade	8th Grade
n	52	49
mean	89.7143	89.7115
$\sum X$ = sum of means	4396	4665
$\sum x^2$ = sum of means ²	397740	422219
S^2 = variance	7648.84615	8616.7143
Standard Deviation	87.4576821	92.826259

The extra-help time was time available to students other than regularly scheduled class time. The total number of times students accessed extra help was 300 times from September 13, 2007, to January 16, 2008. Seventh grade students utilized this time 220 times and eighth grade students 80 times. The

seventh grade keyboarding students accounted for 73% of the extra-help time accessed. The eighth grade keyboarding students accounted for 27% of the extra help time accessed. A chi-square was used to analyze the data. The results were 130.67. This was significant at the $p > .01$ level of 2.76. See Table 3.

Table 3. Number of times extra-help time was accessed by students.

	N=300		Totals
	Help	No Help	
7th	220	80	300
8th	80	220	300
Chi-Square = 130.67			

SUMMARY

In Chapter IV, data were tabulated and analyzed using a t-test and chi-square. The t-test was to determine whether seventh grade students have significantly lower end of course grades than eighth grade students. A chi-square was used to determine the significance of difference between extra-help time used by seventh and eighth grade students. Chapter V contains the summary, conclusions and recommendations for this research.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The problem of this study was to determine whether seventh grade students have a lower end of course grades than eighth grade students in the high school elective course Keyboarding BUS6151. The study also addressed whether there was a significant difference in the amount of extra-help time used by seventh grade students verses eighth grade students. This chapter summarizes the research study, draws conclusions based on the finding of the data, and provides recommendations based on these conclusions.

SUMMARY

The research has supplied significant information regarding the challenging circumstances involved with educating the twenty million middle school students who were enrolled in our nation's middle schools. Everyday these student's face critical choices that may have a tremendous impact on their present and future livelihood. Educators were also faced with a balancing act in providing effective and challenging courses that would benefit these middle school students.

The research provided a substantial amount of evidence about the skill known as keyboarding. Throughout history, keyboarding has normally been offered at the high school level. However, since the influx of computers continues to trickle down even into elementary levels. The time had come to evaluate the proper timing and how teachers should instruct students to correctly use the keyboard. Technology provided great opportunities for both students

and teachers, but the knowledge must be presented on how to properly use that technology.

Keyboarding in the Virginia Beach City Public School System was officially available to students as an elective course in the seventh grade. Students were able to earn one-half of a high school credit when successfully completing this course. However, seventh graders may not possess the developmental readiness to be able to succeed in these more challenging type courses.

CONCLUSIONS

The following conclusions were based on the findings of this research study.

H₁: Eighth grade students will have higher end of course grades than seventh grade students enrolled in a high school credit keyboarding class. The data proved even though seventh and eighth grade students had the same end of course average of 89.71%, the t-test, ($t=.4993$, $p>.01=.30943$), showed the probability within 99% eighth grade students do have higher end of course grades than seventh grade students. Therefore, the researcher accepts the hypothesis of seventh grade students will have lower end of course grades than eighth grade students.

H₂: Seventh grade students will have required more “extra-help time” than eighth grade students. Extra-help time is time needed by students to complete assignments outside of regularly scheduled classroom time. The data confirmed with certainty that seventh grade students require 46% more extra-help time than eighth grade students. The chi-square value was 130.67 and significant at the

$p > .01$ of 2.76. The hypothesis of seventh grade students will require more extra-help time than eighth grade students was proven to be true.

RECOMMENDATIONS

After reviewing the evidence provided and also teaching the keyboarding course BUS6151 to eighth grade students, the researcher recommends a specific method be developed in determining a seventh grader's readiness to take high school credit courses. Possible methods to consider included:

- Students should be required to have a recommendation from a previous teacher before enrolling in the course.
- Parents of students should be made better aware of the strenuous requirements of the keyboarding course.

However, the study was limited by a specific population and making a district wide requirement from this study may not be possible. The evidence did support the teacher's prediction of seventh grade students being lacking in maturity and organizational skills necessary in completing high school credit courses.

Another recommendation would be a structured course introducing touch key method of keyboarding at the elementary school level and making it mandatory at the elementary level. The course would only instruct touch key instruction and not incorporate the creation and formatting of business documents. The elective Keyboarding BUS6151 would still remain available to seventh and eighth grade students.

The researcher fully believed in the importance of students learning the touch key method and it would be easier to teach this skill to students prior to

them forming incorrect habits. By not allowing students their first official keyboarding course until middle school, educators were doing students a great disservice. Schools have provided them with the computer, but not the complete means for inputting data into the computer. Research has proven other school districts have successfully introduced keyboarding skills at the elementary level (Rogers, 1997). The researcher suggests these studies be evaluated and considered. A successful student evolves from a successful school district; however, both must be willing to take advantage of learning from each other.

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Appendix A

2007/2008 Student Competency Record Keyboarding (Secondary) (6151/18wks) 6151 - 18 weeks

Student	School Year
School	Teacher Signature

Traditional letter or numerical grades do not provide adequate documentation of student achievement in competency-based education; therefore, the Virginia Standards for CBE require a recording system to provide information about competencies achieved to employer, student-employee, and teacher. The Student Competency Record provides a means for keeping track of student progress. Ratings are assigned by the teacher for classroom competency achievement and by the teacher-coordinator in conjunction with the training sponsor when competence is evaluated on the job.

Tasks/competencies designated by bullets in the left-hand column(s) are considered essential statewide and are required of all students. In some courses, all tasks/competencies have been identified as essential. Unbulleted tasks/competencies and/or locally added tasks/competencies should be included as local conditions permit.

Note: Tasks marked with an asterisk (*) may be considered sensitive. Teachers should obtain division approval before teaching.

Note: Students with and Individualized Education Plan (IEP) or an Individualized Student Alternative Education Plan (ISAEP) will be rated, using the following scale, only on the competencies identified in their IEP or ISAEP.

...RATING SCALE...

- 1 - Can teach others
- 2 - Can perform without supervision
- 3 - Can perform with limited supervision
- 4 - Can perform with supervision
- 5 - Cannot perform

6151 18 weeks	Keyboarding (Secondary) (6151/18wks) TASKS/COMPETENCIES		Date	Rating
	Implementing Virginia's CTE Course Requirements			
•	001	Demonstrate Virginia's Workplace Readiness Skills in course activities.		
•	002	Apply Virginia's All Aspects of Industry elements in course activities.		
•	003	Identify Internet safety issues and procedures for complying with acceptable use standards.		
	Participating in the Student Organization			
•	004	Identify the purposes and goals of the student organization.		
•	005	Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.		
•	006	Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.		
	Keyboarding (Secondary)			
•	007	Identify computer system components.		
•	008	Boot, access, and exit operating system and software.		
•	009	Input data and commands using peripherals (e.g., keyboard, light pen, mouse, scanner, and voice recognition).		
•	010	Key alphabetic, numeric, and symbol information using a touch system and correct techniques.		
•	011	Manipulate data/software/operating system using function keys, icons, bars, and pull-down menus.		
•	012	Use file and disk management techniques, such as copy, move, store, rename, retrieve, save, delete, and create/manipulate directories.		
•	013	Improve keyboarding techniques.		

6151 18 weeks	Keyboarding (Secondary) (6151/18wks) TASKS/COMPETENCIES		Date	Rating
	•	014	Increase keyboarding speed and accuracy.	
	•	015	Proofread copy.	
	•	016	Edit copy.	
	•	017	Key and format letters, memoranda, reports, outlines, and tables from prepared and rough draft material.	
	•	018	Key and format columns, tables, graphs, and charts.	
	•	019	Compose and format letters, memoranda, reports, outlines, and tables, using the English writing process steps.	
	•	020	Key and format addresses on labels and envelopes.	
	•	021	Produce documents incorporating graphic elements.	
	•	022	Maintain work station, equipment, materials, and supplies.	
	•	023	Obtain assistance for preparing documents via electronic and hard copy references and documentation (e.g., help screen, spell-check, grammar-check, thesaurus, user's manual, dictionary, Internet search).	
	•	024	Describe ergonomic guidelines related to safe computer use.	
		025	Troubleshoot computer problems (e.g., cable hookups, power sources, and operational supplies).	
	•	026	Develop or update a résumé.	
	•	027	Complete a job application form.	
	•	028	Create a portfolio containing representative samples of student work.	
	•	029	Identify potential employment barriers for nontraditional groups and ways to overcome the barriers.	

